

Amendments to the Claims:

This listing of claims will replace all prior versions, of claims in the present application:

Listing of Claims:

1. (Currently Amended) A semiconductor fabrication apparatus to process a wafer, comprising:

an air-tight housing in which an inert gas is admittable and exhaustible;
and

a plurality of adjacent deposition chambers positioned within the air-tight housing, wherein the substrate temperature in forming the thin film is approximately that of room temperature.

2. (Previously Presented) The apparatus of claim 1, wherein one of the deposition chambers is a facing target sputtering chamber.

3. (Previously Presented) The apparatus of claim 2, wherein the deposition chamber further comprises:

a pair of target plates placed at opposite ends of said chamber respectively so as to face each other and form a plasma region therebetween;

a pair of magnets respectively disposed adjacent to said target plates such that magnet poles of different polarities face each other across said plasma region thereby to establish a magnetic field of said plasma region between said target plates;

a substrate holder disposed adjacent to said plasma region, said substrate holder adapted to hold a substrate on which an alloyed thin film is to be deposited; and

a back-bias power supply coupled to the substrate holder.

4. (Previously Presented) The apparatus of claim 3, wherein the back-bias power supply is a DC or an AC electric power source.

5. (Previously Presented) The apparatus of claim 1, further comprising a robot arm to move the wafer.

6. (Previously Presented) The apparatus of claim 1, further comprising a magnetron coupled to the chamber.

7. (Previously Presented) The apparatus of claim 1, further comprising a chuck heater mounted above the wafer.

8. (Previously Presented) The apparatus of claim 1, further comprising a rotary chuck to move a wafer.

9. (Previously Presented) The apparatus of claim 1, further comprising a linear motor to move the rotary chuck and sequentially expose the wafer to a plurality of chambers.

10. (Previously Presented) The apparatus of claim 1, wherein each chamber provides a collimated deposition pattern.

11. (Previously Presented) The apparatus of claim 1, wherein each chamber further comprises a door that opens during each chamber's deposition and closes when the chamber is not depositing.

12. (Previously Presented) The apparatus of claim 11, wherein each door comprises a baffle to catch falling particulates.

13. (Previously Presented) The apparatus of claim 1, wherein the chambers share magnets.

14. (Previously Presented) The apparatus of claim 1, further comprising a housing pump to evacuate air from the housing.

15. (Previously Presented) The apparatus of claim 1, wherein each chamber further comprises a chamber pump.

16. (Previously Presented) The apparatus of claim 1, further comprising chuck supported from underneath rather than from the side.

17. (Previously Presented) The apparatus of claim 1, further comprising a jointed pendulum to support the wafer and keep the wafer at a constant vertical distance from a target plate as the pendulum swings.

18. (Currently Amended) A method for sputtering a thin film onto a substrate, comprising:

providing a plurality of adjacent deposition chambers, each sharing at least one magnet with a neighboring chamber and having at least one target and a substrate having a film-forming surface portion and a back portion, wherein the substrate temperature in forming the thin film is approximately that of room temperature;

creating a magnetic field so that the film-forming surface portion is placed in the magnetic field with the magnetic field induced normal to the film-forming surface portion back-biasing the back portion of the substrate;

and sputtering material onto the film-forming surface portion.

19. (Previously Presented) A method as in claim 18, further comprising swinging the substrate using a pendulum.

20. (Previously Presented) A method as in claim 18, further comprising supporting a chuck from underneath rather than side-way.

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